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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/493,013	01/28/2000	Toshimitsu Kaneko	0039-7544-2TTCRD	1659

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EXAMINER

AKHAVANNIK, HUSSEIN

ART UNIT PAPER NUMBER

2621

DATE MAILED: 04/28/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/493,013

Applicant(s)

KANEKO ET AL.

Examiner

Hussein Akhavannik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Restriction

1. Applicant's election with traverse of group II in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the search and examination of the entire application would not place a serious burden on the Examiner.

This is not found persuasive because these inventions are distinct and have acquired a separate status in the art as shown by their different classification. Invention II has separate utility such as attaching a descriptor of a feature data to a frame. Invention III has separate utility such as comparing the difference of feature data for each frame to the feature data of a retrieval object.

The requirement is still deemed proper and is therefore made FINAL.

2. This application contains claims 1-8 and 15-20 drawn to an invention nonelected with traverse in Paper No. 6. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Specification

3. The disclosure is objected to because of the following informalities:

On page 4, third paragraph, "the estimated move of the background area" should be changed to "the estimated movement of the background area".

On page 22, second paragraph, "data analyzed previously is inputted (step 1100)" should be changed to "data analyzed previously is inputted (step 1101)" to correspond with figure 14.

Appropriate correction is required.

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Drawings

4. New corrected drawings are required in this application because the figures in this application are informal. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palmer (U.S. Patent No. 5,684,715) in view of Itokawa (U.S. Patent No. 6,404,901).

Referring to claim 9,

- i. Extracting feature data of a predetermined object and feature data of a background area from a frame of an input video is not explicitly explained by Palmer. Palmer does explain extracting feature data of a predetermined object in column 6, lines 8-29. The attribute generator is responsible for determining characteristics of an object such as position, shape, size, and layering information for each video object. However, Palmer does not extract feature data of the background area from a frame. Itokawa

illustrates extracting both the foreground area and the background area from an image input in figure 8, reference numbers 102 and 104. Itokawa further explains that the background can be extracted whether it moves or does not move in column 9, lines 21-30. The extraction of feature data from the background is explained by Itokawa in column 9, lines 42-50. In order to save spatial and temporal information about an entire frame, it would be necessary to extract both the object and the background information from a frame. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to extract feature data of a predetermined object and feature data of the background area from a frame.

- ii. Describing the feature data of the predetermined object and the feature data of the background area as a descriptor of the frame is not explicitly explained by Palmer. However, Palmer does illustrate describing the feature data of a predetermined object as a video descriptor in figure 3. Itokawa explains determining the feature data of a background area of a frame corresponding to part i of this claim. In order to store feature data about an entire frame of video, it would be necessary to include feature data of a predetermined object and the background area in a video descriptor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to describe the feature data of

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the predetermined object and the feature data of the background area as a descriptor of the frame.

- iii. Attaching the descriptor to the frame is illustrated by Palmer in figure 3, as the video object descriptor 60 corresponds to object 64 of frame 51.

Referring to claim 10, describing a difference between the feature data of the predetermined object and the feature data of the background area as the descriptor is not explicitly explained by Palmer. However, Itokawa explains in column 9, lines 6-30 that the background data and the foreground data are separated, thereby describing the difference between the feature data and the background data. Itokawa further illustrates in figure 26, illustrates the difference between the background motion vectors (601) and the object motion vectors. In order to separate a predetermined object from the background area of a frame, it would be necessary to determine a difference between a feature of the object and the background. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to describe a difference between the feature data of a predetermined object and the feature data of the background area.

Referring to claim 11,

- i. The feature data of the predetermined object including at least position, outward form or size, and moving information of the object is explained by Palmer in column 4, lines 51-59 and column 5, lines 7-11. The descriptor is explained to include spatial information including the position and size of each object and the temporal information includes action information that specifies movement of the object.

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- ii. The feature data of the background area including at least the moving information of the background area is not explicitly explained by Palmer. However, Itokawa explain that a background area may be moving and that the background movement maybe be calculated as the motion value vector, V_b in column 9, lines 21-30 and illustrated in figure 11. In order to save information of an entire frame when the background is moving, as suggested by Itokawa, it would be necessary to extract both the moving information of the object and the moving information of the background. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the moving information of the background in the feature data of the background.

Referring to claim 12, the descriptor including:

- i. A frame number is illustrated by Palmer in figure 4, as each frame has its own corresponding frame ID.
- ii. A pointer to a next descriptor is explained by Palmer in column 5, lines 7-11. The action information in the descriptors will allow the computer to jump from one frame sequence to another frame sequence, which also would contain a descriptor.
- iii. The feature data of the background area corresponds to claim 11.
- iv. The feature data of each object in the frame is explained by Palmer in column 5, lines 12-26. Palmer explains that there will be a separate video descriptor for each of the objects in the frames.

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Referring to claim 13, the descriptor being created from a corresponding frame at an interval of a predetermined number of frames in the video stream is explained by Palmer in column 6, lines 23-29 and illustrated in figure 4. The interval of frames in the video stream which receive a descriptor is one.

Referring to claim 14, this claim includes all the limitations of claim 14, but is performed on a computer readable medium. Palmer illustrates a computer readable medium capable of performing the method of claim 9 in figure 2 as Disk (15).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kubota et al (U.S. Patent No. 5,930,378) – To exhibit determining the background and foreground area of a frame using optical vectors.

Sambonsugi et al (U.S. Patent No. 6,335,985) – To exhibit determining motion vectors of the foreground and background of a frame.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein Akhavannik whose telephone number is (703)306-4049. The examiner can normally be reached on M-F 8:30-5:00.

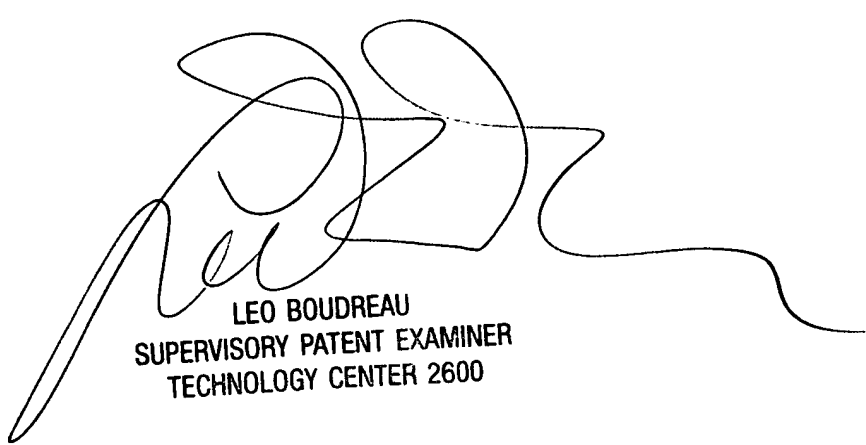
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H. Boudreau can be reached on (703)305-4706. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Hussein Akhavannik
April 19, 2003

HA.



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